RMT®
Integrated Environmental Solutions

222 South Riverside Plaza
Suite 820
Chicago, IL 60606
Telephone: 312-575-0200
Fax: 312-575-0300

WORKPLAN

FURTHER OFF-SITE GROUNDWATER INVESTIGATION

AT

MW19/HOT SPOT 1

L.E. CARPENTER AND COMPANY

WHARTON, NEW JERSEY

August 1999

Nicholas J. Clevett
Project Manager

Alan J. Schmidt C.P.G
Senior Hydrogeologist

Sent to Andy 9/8 to review

Transmittal Letter

RMT, Inc. ("RMT")
222 South Riverside Plaza, Suite 820
Chicago, IL 60606
Tel. (312) 575-0200 • Fax (312) 575-0300

To: Mr. Steven Cipot
Project Manager
USEPA: Region II
290 Broadway; Floor 19
New York, NY 10007-1866
(212) 637-4411 phone

Date: 8/27/99
Project No.: 3868.10
Subject: L.E Carpenter - Wharton NJ
MW19/Hot Spot 1
Workplan to install 3 permanent off-site groundwater monitoring wells

Prepared By: Nick Clevett **Title** Project Manager

Signature: NCL+

We are sending you:

☒Plans

COPIES	DATE	NO.	DESCRIPTION
2	9/27/99	3868.10	MW19/Hot Spot 1 Well Workplan

These items are transmitted as checked below:

☒For approval ☒For your use ☒As requested

☒For review and comment

Remarks

Steven:

Find enclosed 2 copies of the Workplan prepared for the installation of 3 permanent off-site monitoring wells downgradient of the MW19/Hot Spot 1 area (Ref NJDEP Letter dated July 23, 1999)

I will be in touch

Nick

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Section 1
Introduction

L.E. Carpenter and Company (LEC) is pleased to submit this workplan to address the requirements outlined in the New Jersey Department of Environmental Protection (NJDEP) response letter dated July 23, 1999. This workplan outlines the installation, development, and sampling of three (3) permanent off-site groundwater monitoring wells downgradient from the MW19/Hot Spot 1 (MW19/HS1) area.

The three (3) off-site groundwater monitoring wells will be installed down gradient of the existing MW19/HS1 on-site contaminant plume. Groundwater samples will be analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) and bis (2-ethylhexyl) phthalate (DEHP) to further define the extent of groundwater contamination, and establish a "clean zone" per the Technical Requirements for Site Remediation, N.J.A.C 7:26E-4.4. Additionally, homes located on the north side of Ross Street, downgradient of the existing on-site contaminant plume, will be structurally evaluated to determine the presence of sub-grade basements. If sub-grade basements are found to exist in downgradient homes, and off-site (BTEX) contamination above New Jersey Groundwater Quality Standards (NJGWQS) is detected in groundwater samples obtained from the three new monitoring wells, an evaluation of the potential exposure to BTEX vapors via the air pathway (inhalation) will be conducted.

This additional off-site investigation and corresponding workplan are being performed/prepared per Paragraph 29 of the *Administrative Consent Order* (ACO) dated September 26, 1986. The investigative measures outlined in this workplan will comply with applicable groundwater investigation procedures presented in Section II (F)(3) of Appendix A (Remedial Investigation Scope of Work), attached to the previously referenced ACO. All investigative actions proposed in this workplan will also comply with the *Record of Decision* (ROD) dated April 1994; the *Quality Assurance Project Plan* (QAPP) dated October 1994; *Technical Requirements for Site Remediation* (N.J.A.C 7:26E-2.1), and the *Site Health and Safety Plan* (HASP). All field activities will be performed in compliance with the NJDEP's Guidance Document *Field Sampling Procedures Manual* (1992).

Section 2
MW19/HS1 Investigative and Remedial Background

The LEC facility is located at 170 North Main Street, in Wharton, New Jersey (Figure 1). The MW19/HS1 area is situated at the northwest corner of the LEC site, immediately west of Building 9 (Figure 2). This area is associated with two former 10,000-gallon underground storage tanks (USTs) which contained methyl ethyl ketone (MEK) and waste MEK and waste pigments (UST E-3 and UST E-4). In accordance with the 1986 ACO, GeoEngineering, Inc. and Roy F. Weston (Weston) conducted a site wide Remedial Investigation (RI) and separated the L.E. Carpenter site into three areas. The MW19/HS1 area was classified as Area III. Four (4) test pits (TP-63 to TP-66) were excavated around the two USTs. Soil samples were collected from immediately above the water table (between 7 feet and 9 feet bgs) and analyzed for volatile organic compounds (VOCs), base neutral organics (BNO), and priority pollutant metals. No VOCs were detected above quantification limits and residual concentrations of cadmium were detected in TP-63. However, test pit sample results did identify elevated concentrations of DEHP. Subsequently, DEHP was identified as the MW19/HS1 area contaminant of concern.

USTs E-3 and E-4 and visually impacted soil surrounding the USTs were removed from the site in 1991. A detailed account of site UST removal activities is presented in the Final Technical Report for Tank Removal Operations (Roy F. Weston, September 1991). In 1991, after tank removal activities had been completed, Weston installed groundwater monitoring well MW-19 in the area immediately adjacent to the excavation to determine whether groundwater had been impacted by previous operations conducted at the facility. The results of the groundwater sampling activities conducted at that time did not identify the presence of VOCs at concentrations above the method detection limits with the exception of 2-Butanone (MEK).

In November 1994, Weston began the excavation of DEHP impacted soils in the MW19/HS1 area. The final size of the excavation was approximately 70 feet long, ranged from 16 to 33 feet in width, and had an average depth of 9 feet below grade. Analytical results for DEHP from the sidewall samples ranged from 0.24 mg/kg to 140 mg/kg. Approximately 190 cubic yards of soil were removed from the excavation. Quarterly groundwater sampling events conducted at MW-19 by Weston during first and second quarter 1995 identified the presence of BTEX, in addition to MEK, at concentrations exceeding the NJGWQS stipulated in the ROD. In October 1996, Weston submitted a delineation plan to the NJDEP to further define the extent of VOC

impact to groundwater and further delineate both VOC and DEHP impact to saturated and non-saturated soils in the MW19/HS1 area. Temporary monitoring wells were installed and sampled and soil samples were collected an analyzed. The results of chemical analyses performed on the groundwater samples collected from the temporary monitoring wells identified the presence of VOCs at concentrations similar to those identified in monitoring well MW-19 in 1995. Additionally, soil samples at a number of locations exhibited DEHP concentrations exceeding the Impact to Groundwater Soil Cleanup Objective of 100 mg/kg outlined in the ROD.

RMT received approval of an additional MW19/HS1 area groundwater delineation plan in January 1998. Subsequently, in February 1998, RMT conducted a subsurface investigation that included the installation and sampling of an additional five (5) groundwater monitoring wells (MW19-1 through MW-19-5). VOC concentrations exceeding the NJGWQS were identified at MW19-1 (center of the plume); MW19-2; MW19 (original Weston well), and at MW19-5. However, when compared to the VOC concentrations found during Weston's 1996 sampling (BW-1 through BW-9), significant reductions in the concentrations of VOCs were found at monitoring wells MW19 and MW19-2. As no remedial action had been performed (other than the 1994 soils excavation), it was concluded that natural attenuation of the volatile groundwater contaminants (toluene, ethylbenzene, xylene) was likely occurring. Groundwater samples were also analyzed for the presence of DEHP. DEHP concentrations exceeding NJGWQS were found at MW19-1 (center of the plume) and at MW19-5 (downgradient well).

The NJDEP letter dated July 15, 1998 required L.E. Carpenter to further delineate the off-site extent of BTEX and DEHP impact to groundwater downgradient from the MW19/HS1 area . RMT, on behalf of L.E. Carpenter, prepared an investigation workplan and submitted it to the NJDEP in November 1998. Per discussions and correspondence with the NJDEP (December 21, 1998), RMT was requested to perform a groundwater screening investigation utilizing Hydropunch® or other similar methodology.

Hydropunch® sampling activities were performed on April 21, 1999, however, the subcontractor encountered significant difficulties advancing the Hydropunch® tool in the permitted off-site sample locations due to the existence of heavy glacial till at approximately 6-14 feet below ground surface (bgs). A total of 24 off-site advancement attempts were made, four (4) of which penetrated the water table (11 to 13 feet bgs). Extracted groundwater samples from each of the four Hydropunch® locations were analyzed for BTEX (EPA Method 602) and DEHP (EPA Method 625). BTEX were not detected in any of the samples. DEHP was detected in samples collected from Hydropunch® locations HP-2 and HP-3, but the values were estimated and DEHP was also detected in the blank. No detections for BTEX nor DEHP were

reported in excedence of NJGWQS. The locations of the four off-site Hydropunch® wells and those locations where Hydropunch® refusal occurred are presented as Figure 3.

RMT's report entitled MW19/HS1 Off-Site Subsurface Investigation documenting the Hydropunch® installation and sampling activities was submitted to the NJDEP in June 1999. The NJDEP issued comments regarding the results of this investigation in their letter dated July 23, 1999. The July 23, 1999 NJDEP response letter is presented as Appendix A. The NJDEP required the installation of additional off-site groundwater monitoring wells downgradient from the MW19/HS1 area as the four Hydropunch® wells installed in April 1999 were not considered truly downgradient of the know contaminant plume due to refusal in those downgradient locations (see Figure 3).

Section 3
Proposed Scope of Work

This section presents the proposed investigation activities for the MW19/HS1 area of concern per the comments outlined in the NJDEP letter dated July 23, 1999,

3.1 Road Opening Request(s) and Utility Location

RMT, on behalf of LEC, shall submitt a "Road Opening Request" application package to the Borough of Wharton to request approval for the installation of the three off-site groundwater monitoring wells. This application process is anticipated to take three weeks. Written approval from the borough authorizing the well installation(s) will be presented in the groundwater investigation report documenting field activities and well sampling.

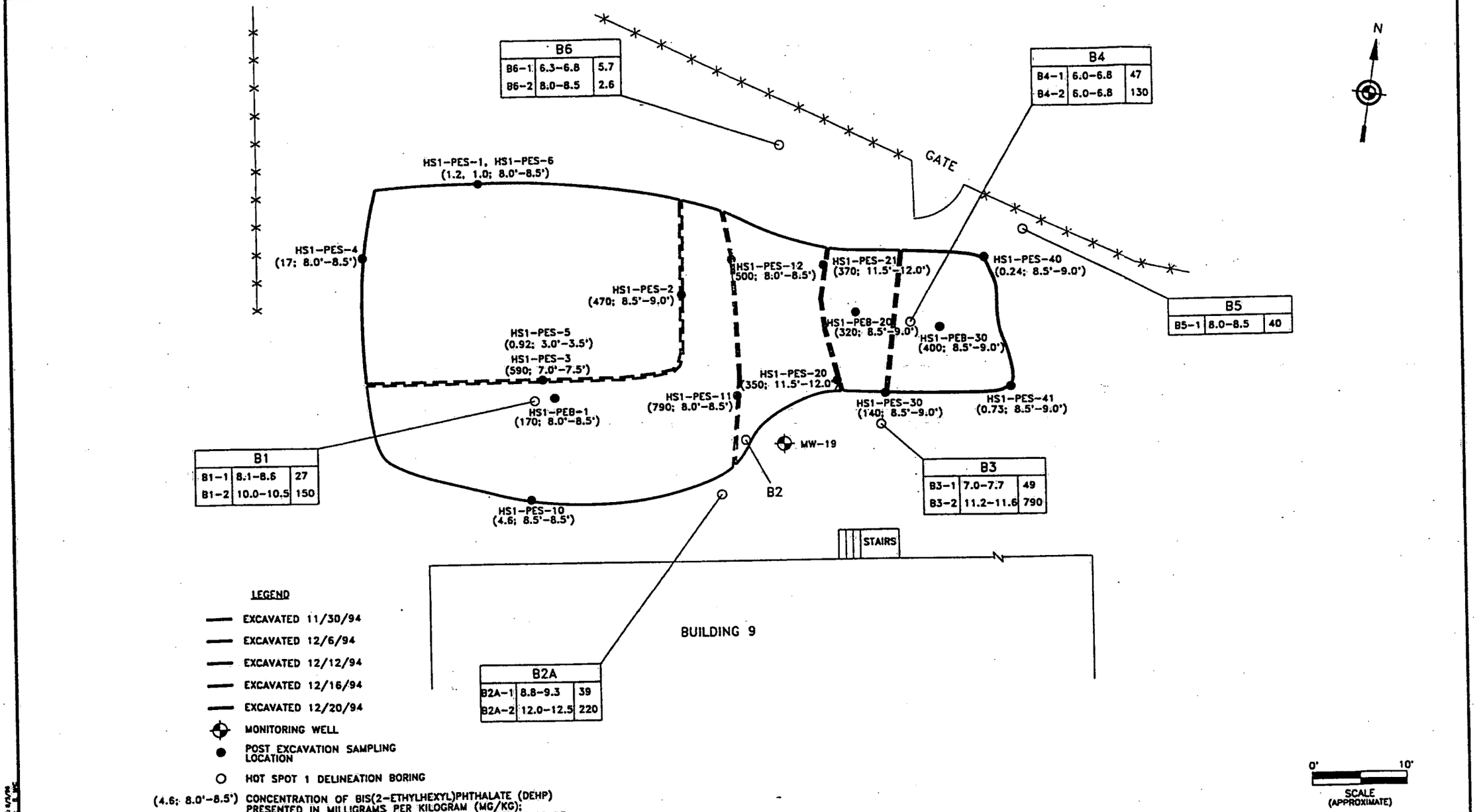
Additionally, all off-site utilities will be located prior to the commencement of monitoring well installation activities. RMT, on behalf of LEC, will call NJ One Call Dig to obtain a job specific dig number.

3.2 Monitoring Well Installation, Development, and Surveying

3.2.1 Monitoring Well Installation

The lateral delineation of the MW19/HS1 area will include installation of three (3) downgradient monitoring wells. Proposed locations for the three off-site monitoring wells is presented as Figure 4. The monitoring wells will be installed by a New Jersey licensed well driller using air rotary drilling methods. Monitoring well installation permits will be obtained and well installation reports will be submitted to NJDEP upon completion. All monitoring wells will be installed in accordance with procedures outlined in the NJDEP's *Field Sampling Procedures Manual* (Appendix 7-1(B) Monitor Well Requirements for Unconsolidated Aquifers).

Continuous split spoon sampling will be conducted to characterize the stratigraphy of the underlying soils and to determine appropriate well depths and screen intervals. Soil samples will be examined in the field and classified using the Unified Soil Classification System (USCS). In addition, each soil sample will be examined in the field for indications of staining and/or contamination and screened with a photoionization detector (PID) for evidence of volatile contamination. Soil boring logs will be presented in the investigation report.

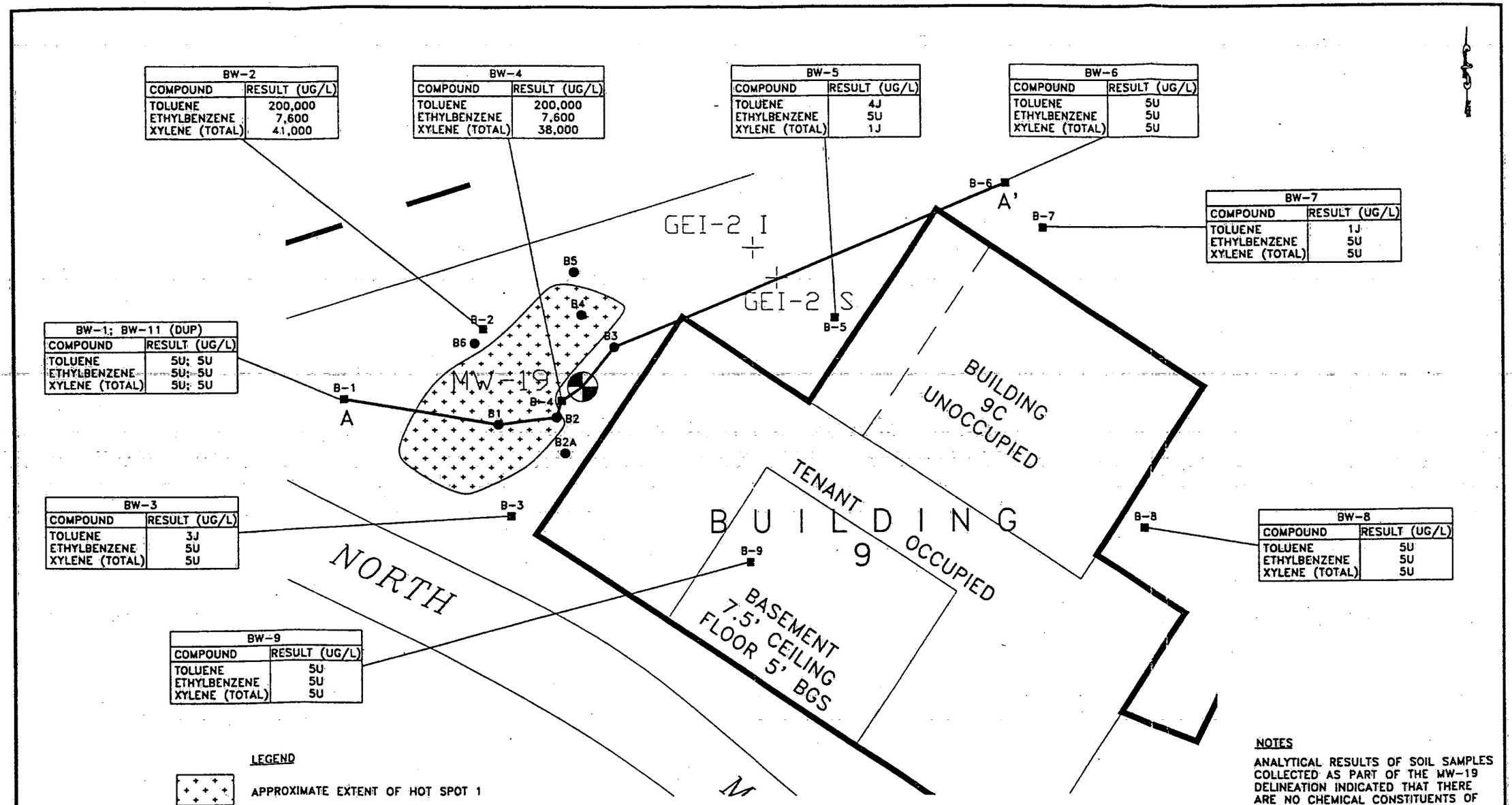


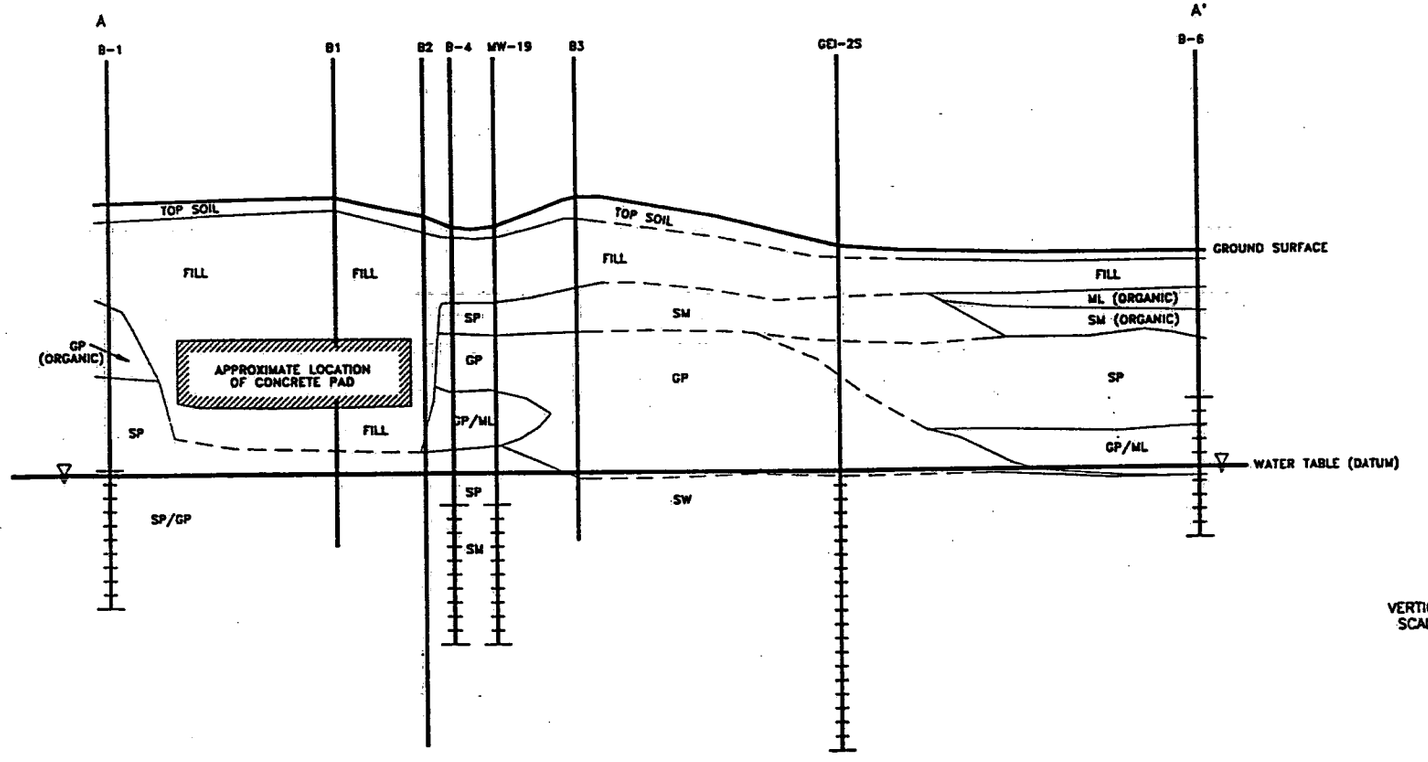
WESTON MANAGERS DESIGNERS/CONSULTANTS

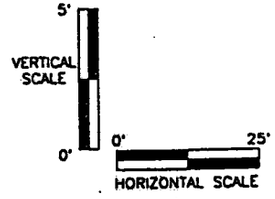
PROJECT NAME: SECOND QUARTER 1996 PROGRESS REPORT
WHARTON, NEW JERSEY
CLIENT NAME: L.E. CARPENTER AND COMPANY

HOT SPOT 1 DELINEATION SAMPLING LOCATIONS AND ANALYTICAL RESULTS

DATE: JULY 1996
FIGURE #: 2-6


BW-2
COMPOUND | RESULT (UG/L)
TOLUENE | 200,000
ETHYLBENZENE | 7,600
XYLENE (TOTAL) | 41,000
BW-4
COMPOUND | RESULT (UG/L)
TOLUENE | 200,000
ETHYLBENZENE | 7,600
XYLENE (TOTAL) | 38,000
BW-5
COMPOUND | RESULT (UG/L)
TOLUENE | 4J
ETHYLBENZENE | 5U
XYLENE (TOTAL) | 1J
BW-6
COMPOUND | RESULT (UG/L)
TOLUENE | 5U
ETHYLBENZENE | 5U
XYLENE (TOTAL) | 5U
BW-7
COMPOUND | RESULT (UG/L)
TOLUENE | 1J
ETHYLBENZENE | 5U
XYLENE (TOTAL) | 5U
BW-1; BW-11 (DUP)
COMPOUND | RESULT (UG/L)
TOLUENE | 5U; 5U
ETHYLBENZENE | 5U; 5U
XYLENE (TOTAL) | 5U; 5U
BW-3
COMPOUND | RESULT (UG/L)
TOLUENE | 3J
ETHYLBENZENE | 5U
XYLENE (TOTAL) | 5U
BW-8
COMPOUND | RESULT (UG/L)
TOLUENE | 5U
ETHYLBENZENE | 5U
XYLENE (TOTAL) | 5U
BW-9
COMPOUND | RESULT (UG/L)
TOLUENE | 5U
ETHYLBENZENE | 5U
XYLENE (TOTAL) | 5U
GEI-2 I
GEI-2 S
MW-19
BUILDING 9C UNOCCUPIED
TENANT OCCUPIED BUILDING 9
BASEMENT 7.5' CEILING FLOOR 5' BGS
NORTH
B-1
B-2
B-3
B-4
B-5
B-6
B-7
B-8
B-9
A
A'
B1
B2
B2A
B3
B4
B5
B6
LEGEND
APPROXIMATE EXTENT OF HOT SPOT 1
LINE OF GEOLOGIC CROSS-SECTION A-A'
MW-19 DELINEATION SOIL BORING/ GROUNDWATER SCREENING LOCATION
HOT SPOT 1 DELINEATION SOIL BORING BORING
PIEZOMETER LOCATION
MONITORING WELL LOCATION
GRAPHIC SCALE
25 0 12.5 25
1 inch = 25 ft.
NOTES
ANALYTICAL RESULTS OF SOIL SAMPLES COLLECTED AS PART OF THE MW-19 DELINEATION INDICATED THAT THERE ARE NO CHEMICAL CONSTITUENTS OF CONCERN IN THIS PORTION OF THE SITE'S SOILS.
UG/L DENOTES MICROGRAMS PER LITER.
WESTON MANAGERS DESIGNERS/CONSULTANTS
PROJECT NAME: SECOND QUARTER 1996 PROGRESS REPORT
WHARTON, NEW JERSEY
CLIENT NAME: L.E. CARPENTER
MW-19 DELINEATION SAMPLING LOCATIONS AND ANALYTICAL RESULTS MAP
DATE: JULY 1996
FIGURE #: 2-7





SCALES

HORIZONTAL	1"= 25'
VERTICAL	1"= 5'
VERTICAL EXAGGERATION	5X
DATUM	WATER TABLE: MAY 1996 (BASED ON DEPTH TO WATER READINGS IN TEMPORARY WELL POINTS AND MONITORING WELL MW-19 AND GEI-2S)

LEGEND

SCREENED INTERVALS IN TEMPORARY WELL POINTS AND MONITORING WELLS

GEOLOGIC CONTACTS (DASHED WHERE INFERRED)

NOTE: STRATIGRAPHIC SEQUENCE AT MW-19 AND GEI-2S ARE BASED ON NEARBY SECOND QUARTER, 1996 SOIL BORING DATA.

WESTON MANAGERS DESIGNERS/CONSULTANTS

PROJECT NAME: SECOND QUARTER 1996 PROGRESS REPORT
WHARTON, NEW JERSEY
CLIENT NAME: L.E. CARPENTER

GEOLOGIC CROSS SECTION A-A'
VICINITY OF HOT SPOT 1
AND MW-19

DATE: JULY 1996
FIGURE #: 2-8

(1590, 1-2)
(1540, 8-9)

GPB-10

GPB-24

SB-6
(2410, 0.5-1)
(31.7, 2-2.5)
(245, 4-4.3)

(418, 1-2)
GPB-14

GPB-12

SB-5
(1490/1810, 0.1-0.7)
(474, 2-2.4)
(306/ 5-5.5)

GPB-8

SB-15
(2550, 0.6-1)
(1555, 2.5-3)
(5040, 4-4.5)

BUILDING
RUBBLE

4' SOIL
PILE

SB-7
(623, 0.5-0.9)
(116, 3-3.2)
(12.8, 3.2-3.5)

GPB-20

HSB-PES-30
(1260, 0-0.5)

SB-4
(1870, 0-0.5)
(1110, 2-2.5)
(47.7, 4-4.5)

6' SOIL
PILE

GPB-13
(892, 1-2)

HSB-PES-40
(1260, 0-0.5)

HSB-PES-11
(826, 0-0.5)

HA-4
(2230, 0-0.5)

HSB-PES-31
(2100, 0-0.5)

GPB-7

HSB-PES-2
(719, 0-0.5)

HOT SPOT B

HSB-PES-20
(1370, 0-0.5)

HSB-PES-41
(2460, 0-0.5)

GPC-12

HSB-PES-10
(321, 0-0.5)

HSB-PEB-20
(145, 4.0-4.5)

SB-3
(1770, 0-0.5)
(1410, 3-3.5)
(2280, 4-4.5)

GPC-11

HSB-PEB-10
(16.1, 4.0-4.5)

HSB-PES-1
(2130, 0-0.5)

HSB-PES-12
(2130, 0-0.5)

GPC-3

HSB-PEB-1
(990, 2.0-2.5)

HA-5
(217, 0-0.5)

GPB-6
(2130, 1-2)
(1270, 5-6)

(2770, 1-2)
(1330, 5-6)
GPC-2

GPC-13

HSB-PES-13
(540, 0-0.5)

HSB-PES-21
(1740, 0-0.5)

HSB-PES-32
(2060, 0-0.5)

(1970, 1-2)
(27.5, 5-6)
GPC-4

C-8
(2630, 0-0.5)
(1550, 2-2.5)
(500, 4-4.5)

GPB-5

HSB-PES-42
(2110, 0-0.5)

SB-2
(2340, 0-0.5)
(1690, 2-2.5)
(678, 4-4.5)

GPC-1

SB-1
(2420, 0-0.5)
(2830, 3-3.5)
(1030, 4.5-5)

TP-48

(53.7, 1-2)
(471, 5-6)
GPC-14

MW-1(R)

GPB-4

C-9
(2420, 0.2-0.6)
(2030, 2-2.5)
(233, 4.5-5)

C-7
(2610, 0-0.5)
(1590/611, 2-3)
(1550, 4-4.5)

SB-8
(282, 0-0.5)
(8.1/19.1, 2-2.5)

6' SOIL
PILE

GPB-3

SB-10
(1670, 0-0.5)
(1240, 3-3.5)
(31, 4.5-5)

GPC-5

GPC-16

HOT SPOT 4

C-6
(242, 0-0.5)
(513, 2-2.5)
(218, 4-4.5)

GPB-16
(162, 1-2)

GPB-2
(1750, 1-2)
(1920, 5-6)

(1740, 1-2)
(705, 5-6)
GPC-6

GPC-15

HSC-PES-21
(1200, 0-0.5)

SB-9
(1490, 0-0.5)
(110, 3-3.5)
(12.4 4-4.5)

C-10
(1790/1890, 0-1)
(911, 3-3.5)
(871, 4-4.5)

C-5
(77.2, 0-0.5)
(44.1, 2.2-2.5)
(9.4, 7-7.5)

GPC-17

GPB-15

GPB-17

HSC-PES-31
(1180, 0-0.5)

HSC-PES-11
(627, 0-0.5)

GPB-1

HA-6

GPC-7

HSC-PES-12
(436, 0-0.5)

C-11
(472, 0-0.5)
(94, 2-2.4)
(13.5, 4-4.5)

HOT SPOT C

HSC-PES-2
(824, 0.5-1.0)

GPB-18

HA-7

GPB-19

C-3
(704, 0-0.5)
(758, 2.8-3.3)
(346, 4.2-4.6)

HSC-PES-30
(611, 0-0.5)

HSC-PES-1
(860, 0.25-0.75)

HA-8

HA-2
(693, 0-0.5)

HSC-PEB-1
(246, 2.0-2.5)

GPC-8

HSC-PES-20
(853, 0-0.5)

HSC-PES-13
(293, 0-0.5)

GPC-18

C-2
(215, 0-0.5)
(818, 2-2.5)
(182, 4-4.5)

HSC-PES-10
(856, 0-0.5)

HSC-PES-3
(644, 0.25-0.75)

HSC-PES-14
(477, 0-0.5)

HSC-PES-15

TP-75

GPC-9

C-12
(437, 0.1-0.6)
(1250, 2-2.5)

GPC-10
(110, 1-2)
(17, 5-6)

TREATMENT
BUILDING


GPB-24
SB-6
(2410, 0.5-1)
(31.7, 2-2.5)
(245, 4-4.3)
(418, 1-2)
GPB-14
GPB-12
SB-5
(1490/1810, 0.1-0.7)
(474, 2-2.4)
(306/ 5-5.5)
SB-7
(623, 0.5-0.9)
(116, 3-3.2)
(12.8, 3.2-3.5)
GPB-13
(892, 1-2)
HSB-PES-30
(1260, 0-0.5)
HSB-PES-40
(1260, 0-0.5)
SB-4
(1870, 0-0.5)
(1110, 2-2.5)
(47.7, 4-4.5)
6' SOIL PILE
GPB-10
GPB-8
BUILDING RUBBLE
SB-15
(2550, 0.6-1)
(1555, 2.5-3)
(5040, 4-4.5)
4' SOIL PILE
GPB-20
HSB-PES-11
(826, 0-0.5)
HA-4
(2230, 0-0.5)
HSB-PES-31
(2100, 0-0.5)
HSB-PES-2
(719, 0-0.5)
HOT SPOT B
HSB-PES-20
(1370, 0-0.5)
HSB-PES-41
(2460, 0-0.5)
GPB-7
GPC-12
HSB-PES-10
(321, 0-0.5)
HSB-PEB-20
(145, 4.0-4.5)
SB-3
(1770, 0-0.5)
(1410, 3-3.5)
(2280, 4-4.5)
GPC-11
HSB-PEB-10
(16.1, 4.0-4.5)
HSB-PES-1
(2130, 0-0.5)
HSB-PES-12
(2130, 0-0.5)
GPC-3
HSB-PEB-1
(990, 2.0-2.5)
HA-5
(217, 0-0.5)
HSB-PES-13
(540, 0-0.5)
GPB-6
(2130, 1-2)
(1270, 5-6)
(2770, 1-2)
(1330, 5-6)
GPC-2
GPC-13
HSB-PES-21
(1740, 0-0.5)
HSB-PES-32
(2060, 0-0.5)
(1970, 1-2)
(27.5, 5-6)
GPC-4
C-8
(2630, 0-0.5)
(1550, 2-2.5)
(500, 4-4.5)
GPB-5
HSB-PES-42
(2110, 0-0.5)
SB-2
(2340, 0-0.5)
(1690, 2-2.5)
(678, 4-4.5)
GPC-1
SB-1
(2420, 0-0.5)
(2830, 3-3.5)
(1030, 4.5-5)
TP-48
(53.7, 1-2)
(471, 5-6)
GPC-14
C-9
(2420, 0.2-0.6)
(2030, 2-2.5)
(233, 4.5-5)
C-7
(2810, 0-0.5)
(1590/611, 2-3)
(1550, 4-4.5)
MW-1(R)
SB-8
(282, 0-0.5)
(8.1/19.1, 2-2.5)
GPB-4
GPB-3
SB-10
(1670, 0-0.5)
(1240, 3-3.5)
(31, 4.5-5)
6' SOIL PILE
GPC-5
GPC-16
GPB-16
(162, 1-2)
GPB-2
(1750, 1-2)
(1920, 5-6)
(1740, 1-2)
(705, 5-6)
GPC-6
HOT SPOT 4
C-6
(242, 0-0.5)
(513, 2-2.5)
(218, 4-4.5)
GPC-15
SB-9
(1490, 0-0.5)
(110, 3-3.5)
(12.4 4-4.5)
HSC-PES-21
(1200, 0-0.5)
C-10
(1790/1890, 0-1)
(911, 3-3.5)
(871, 4-4.5)
C-5
(77.2, 0-0.5)
(44.1, 2.2-2.5)
(9.4, 7-7.5)
GPC-17
GPB-15
GPB-17
GPB-1
HSC-PES-31
(1180, 0-0.5)
HSC-PES-11
(627, 0-0.5)
HSC-PES-12
(436, 0-0.5)
HA-6
GPC-7
C-11
(472, 0-0.5)
(94, 2-2.4)
(13.5, 4-4.5)
HSC-PES-2
(824, 0.5-1.0)
HOT SPOT C
GPB-18
GPB-19
HA-7
C-3
(704, 0-0.5)
(758, 2.8-3.3)
(346, 4.2-4.6)
HSC-PES-10
(611, 0-0.5)
HSC-PES-1
(860, 0.25-0.75)
HA-8
HA-2
(693, 0-0.5)
HSC-PEB-1
(246, 2.0-2.5)
GPC-8
GPC-18
HSC-PES-20
(853, 0-0.5)
HSC-PES-13
(293, 0-0.5)
C-2
(215, 0-0.5)
(818, 2-2.5)
(182, 4-4.5)
HSC-PES-10
(856, 0-0.5)
HSC-PES-3
(644, 0.25-0.75)
TP-75
GPC-9
HSC-PES-14
(477, 0-0.5)
HSC-PES-15
C-12
(437, 0.1-0.6)
(1250, 2-2.5)
TREATMENT BUILDING

The groundwater table is estimated to exist from approximately 9 to 12 feet bgs. However, due to current drought conditions on the East Coast, the static water level may exist below 12 feet. Subsequently, each monitoring well will be constructed of 10-foot long 2-inch diameter stainless steel well screens (0.020 slot size), 10-foot long 2-inch diameter stainless riser pipes and 2-inch diameter stainless steel slip cap/bottoms. A sand filter pack will be placed around the well screen and a 5-foot bentonite seal will be placed above the filter pack. The remaining boring annulus will be grouted with a cement bentonite grout according to NJDEP requirements. So not to interfere with potential off-site traffic, the three wells will be flush mounted to existing grade with road-rated protective well casings and covers. All monitoring well locations will be restored to original grade and condition.

3.2.2 Monitoring Well Development and Decontamination

The monitoring wells will be developed by pumping after installation is complete. Pumping will continue until non-turbid formation water is produced. All development and decontamination waters will be containerized, staged in an appropriate location and removed along with fluids extracted during monthly enhanced fluid recovery (EFR) events.

Drilling and development equipment will be decontaminated as described in the QAPP. The equipment will be decontaminated prior to and between sampling locations using a high-pressure washer. Sampling equipment will be decontaminated between samples using a soap and distilled water rinse.

3.2.3 Professional Well Survey

The top of the innermost casing (excluding cap) of each of the three monitoring wells will be surveyed to the nearest 0.01 foot by a New Jersey-Licensed surveyor. The survey point shall be the highest point of the casing, and will be marked on each well after completion.

3.3 Monitoring Well Sampling

All monitoring wells will be sampled in accordance with procedures outlined in the NJDEP's *Field Sampling Procedures Manual.* The groundwater samples will be collected at least two weeks (14-days) after the wells have been developed in accordance with Chapter 7 - Section H (5)(c)(i) of the NJDEP's *Field Sampling Procedures Manual.* Prior to sampling, each of the three wells will be purged using a peristaltic pump with dedicated tubing for each well.

Groundwater samples will be collected from the three proposed monitoring wells using dedicated teflon bailers and analyzed for DEHP (U.S. EPA SW846 Method 625) and BETX (U.S. EPA SW846 Method 602). Well purging and sampling activities will be performed by STL Envirotech, a NJDEP certified laboratory.

Quality control samples will be collected per the QAPP, to include one field blank per day of sampling, one trip blank per shipment, and one duplicate sample (5 percent of the total number of samples collected).

3.4 Investigation Derived Wastes

Soil cuttings generated from the drilling process will be containerized in 55-gallon steel drums, labeled, and staged appropriately pending off site disposal. RMT will relocate the drums to L.E. Carpenter property. The soil will be characterized for disposal and disposed off site at an approved landfill.

The decontamination and monitoring well purge fluids will be contained in 55-gallon drums and disposed along with fluid extracted during a monthly EFR event.

3.5 Structural Evaluation of Downgradient Homes

A cursory structural evaluation of applicable downgradient homes located north of Ross Street will be performed. RMT, on behalf of LEC, will contact appropriate local agencies to obtain the necessary building/engineering information (blue prints, foundation plans etc.) If sub-grade basements are found to exist in downgradient homes, and off-site (BTEX) contamination above New Jersey Groundwater Quality Standards (NJGWQS) is detected in groundwater samples obtained from the three new downgradient monitoring wells, RMT, on behalf of LEC, will conduct an evaluation of the potential exposure to BTEX vapors via the air pathway (inhalation). A workplan outlining this scope of work (if applicable) will be prepared and submitted to the NJDEP for approval prior to the implementation of any field activities.

3.6 Applicable Remedial Alternatives

Once the full extent of subsurface impact both on and off-site from the MW-19/Hot Spot 1 area has been delineated, a conceptual design to remediate the area as defined by Alternative No. 4 of the ROD will be submitted to the NJDEP for review and approval.

Section 4
Schedule

A schedule for implementation of this proposed workplan is presented as Appendix B. The schedule initiates after this workplan has been submitted to the NJDEP for review. Appropriate allocations of time to perform the proposed scopes of work, and corresponding sub scopes are identified as tasks. This schedule and adherence to the proposed time frames are based upon the following assumptions:

- NJDEP review time for this workplan is no longer than 30 days.
- Village of Wharton Road Opening Request approval takes three weeks.
- The lag time between the development and sampling of the three proposed monitoring wells is two weeks.
- Extreme weather will cause shifts in this schedule (snow, ice, rain, drought, Acts of God etc.)

LEGEND

- WATER FEATURE
- PROPERTY LINE
- FENCE
- TREATMENT BUILDING

ROSS STREET
GATE
DRAINAGE CHANNEL
AIR PRODUCTS AND CHEMICALS, INC.
HOT SPOT 1/ MW-19 AREA
HS2
HSA
BUILDING 9
BUILDING 8
BUILDING 15
BUILDING 17
NORTH MAIN STREET
WALL
BUILDING 16
HS5
FORMER BUILDING 14
ROSS AND BAKER SILK MILL
WASHINGTON FORGE POND
WASTE DISPOSAL AREA
FENCE
WHARTON ENTERPRISES
HSB
HS4
HS3
HSC
CONCRETE PAD
DAM
RAILROAD RIGHT OF WAY
FORMER BUILDING
HS6
HSD
BUILDING
ROCKAWAY RIVER

0 100 200
SCALE: 1"=100'

NOTE: SITE MAP OBTAINED FROM FROM ROY F. WESTON SECOND QUARTER 1997 PROGRESS REPORT

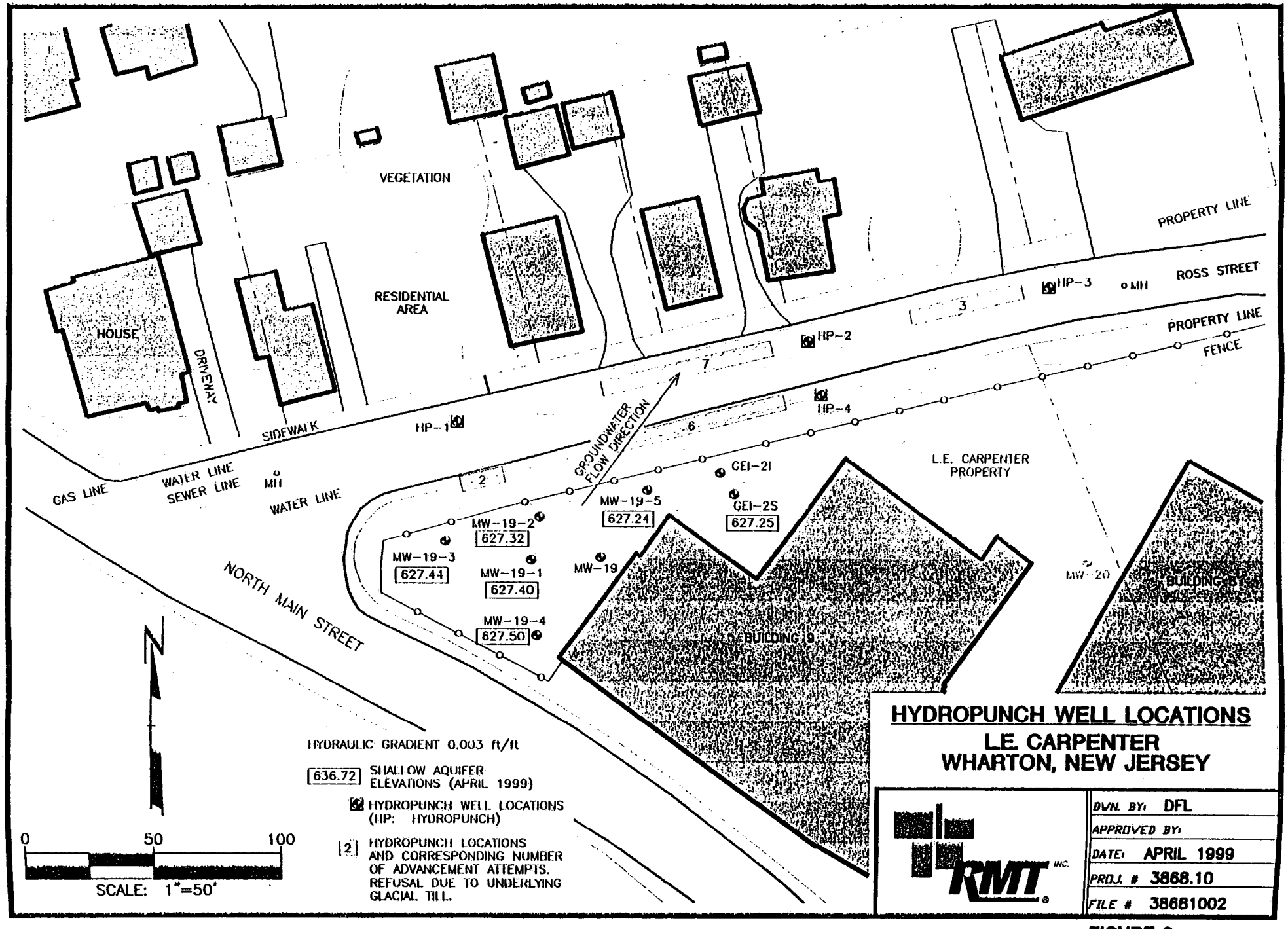
PLOT DATA
Drawing Name:
Operator Name:
Scale:
Dwg Size:
Plot Date:
Plot Time:
Attached Xref's:

AREAS OF CONCERN
LE. CARPENTER
WHARTON, NEW JERSEY

RMT INC.

DWN. BY:	DFL
APPROVED BY:	
DATE:	AUGUST 1998
PROJ. #	3868.02
FILE #	38680215

FIGURE 2

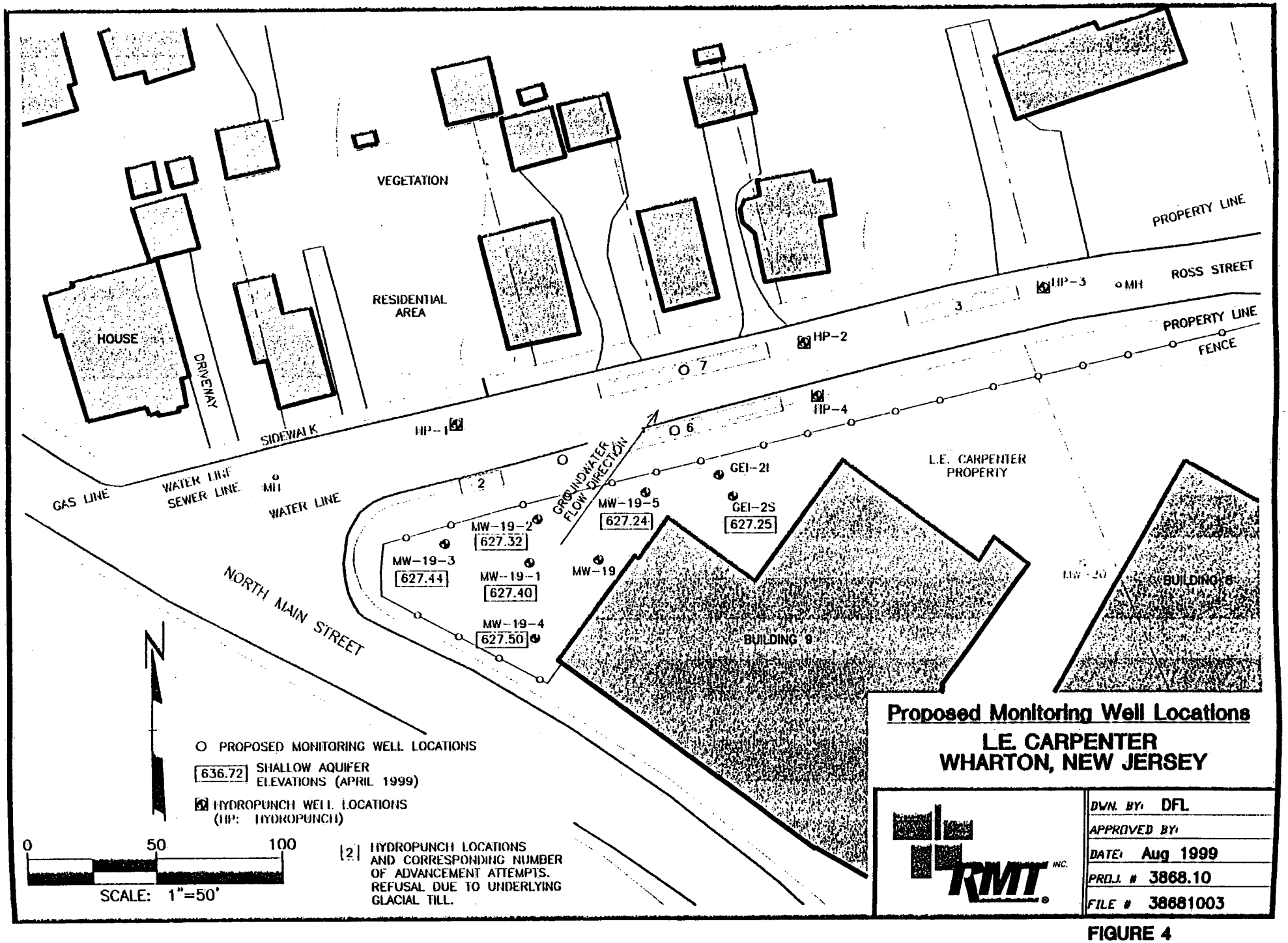


HYDROPUNCH WELL LOCATIONS
L.E. CARPENTER
WHARTON, NEW JERSEY

RMT INC.

DWN. BY:	DFL
APPROVED BY:	
DATE:	APRIL 1999
PROJ. #	3868.10
FILE #	38681002

FIGURE 3



Proposed Monitoring Well Locations

LE. CARPENTER
WHARTON, NEW JERSEY

RMT INC.

DWN. BY:	DFL
APPROVED BY:	
DATE:	Aug 1999
PROJ. #	3868.10
FILE #	38681003

FIGURE 4

Appendix A
NJDEP Letter Dated July 23, 1999

State of New Jersey
Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

Mr. Cristopher Anderson
Director, Environmental Affairs
L.E. Carpenter & Company
200 Public Square
Suite 36-5000
Cleveland, OH 44114-2304

JUL 23 1999

RECEIVED
JUL 28 1999
N.C. Mail

Dear Mr. Anderson:

Re: L.E. Carpenter Superfund Site
Wharton, Morris County

The New Jersey Department of Environmental Protection (Department) and EPA have reviewed the MW-19/Hot Spot 1 Off-Site Subsurface Investigation dated June 1999 and have the following comments:

1. This document, as well as all documents submitted to the Department must be certified as per N.J.A.C. 7:26E-1.5.

2. The document states that no BTEX or DEHP above the applicable standards were detected in any of the four hydropunch samples and based upon these results, the observed ground water flow direction, and historical on-site sampling there is no evidence that off-site migration of BTEX or DEHP has occurred. The Department disagrees with this conclusion. Figure 3 indicates that no ground water samples were taken downgradient of the storage tanks due to hydropunch refusal. The Department requests that wells be installed downgradient to delineate the off-site extent, if any, of ground water contamination originating from the MW-19/Hot Spot 1 Area.

3. The proximity of the MW-19 ground water contamination to the homes along Ross Street has raised concerns regarding the possibility of BTEX vapors seeping into basements. Since the downgradient extent of ground water contamination has not yet been established, an evaluation of these homes must be conducted to determine whether any of these homes have basements. If additional delineation of the MW-19 ground water contaminant plume indicates that contamination has migrated beyond Ross Street, then an evaluation of potential exposure (via air pathway) must be conducted.

Please contact me at (609) 633-7261 if you have any questions.

Sincerely,

Gwen B Zervas

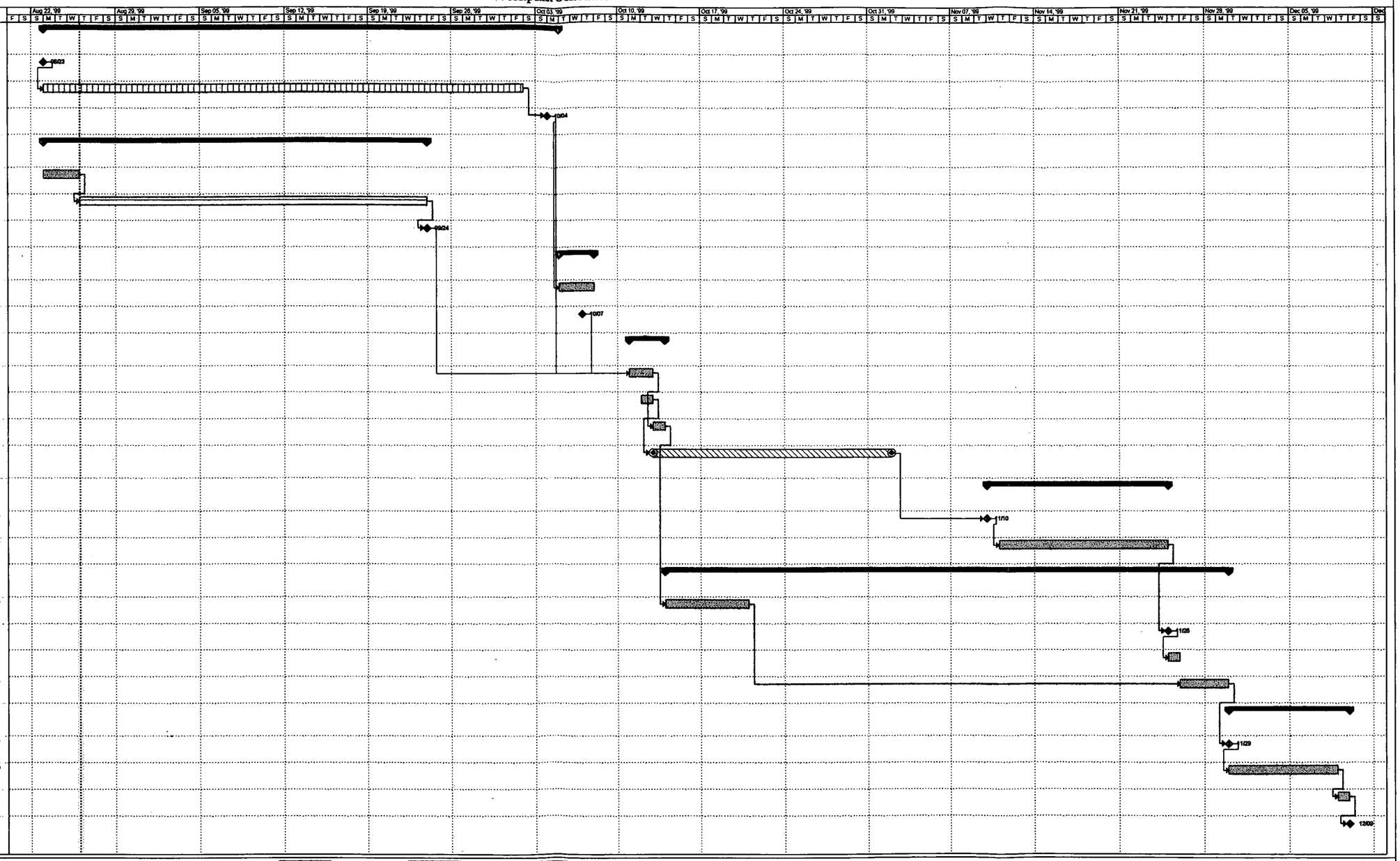
Gwen B. Zervas, P.E.
Case Manager
Bureau of Case Management

C: Stephen Cipot, EPA
Nicholas Clevett, RMT
George Blyskun, BGWPA
John Prendergast, BEERA

Appendix B
Workplan Schedule

L.E. Carpenter Company
MW19/Hot Spot 1 Off Site Groundwater Investigation
Workplan Schedule

ID	Task Name	Duration	Start	Finish
1	**NJDEP Workplan Evaluation and Review**	31 days	Mon 08/23/99	Mon 10/04/99
2	Workplan Submitted to NJDEP for Review	0 days	Mon 08/23/99	Mon 08/23/99
3	NJDEP Workplan Review by EPA and NJDEP	30 days	Mon 08/23/99	Fri 10/01/99
4	Receive Formal NJDEP Written Approval for Workplan	1 day	Mon 10/04/99	Mon 10/04/99
5	**Village of Wharton Road Opening Request Application**	24 days	Mon 08/23/99	Fri 09/24/99
6	Preparation of Road Opening Request Application	3 days	Mon 08/23/99	Wed 08/25/99
7	Village of Wharton Application Review	21 days	Thu 08/26/99	Thu 09/23/99
8	Receive Village Road Opening Permits	0 days	Fri 09/24/99	Fri 09/24/99
9	**Subcontract With NJ Licensed Driller**	3 days	Tue 10/05/99	Thu 10/07/99
10	Preparation of Subcontract	3 days	Tue 10/05/99	Thu 10/07/99
11	Subcontract Arrangement Complete	0 days	Thu 10/07/99	Thu 10/07/99
12	**Well Installation/Development/Survey**	3 days	Mon 10/11/99	Wed 10/13/99
13	Install Three Off-Site Downgradient Monitoring Wells	2 days	Mon 10/11/99	Tue 10/12/99
14	Develop 3 Monitoring Wells	1 day	Tue 10/12/99	Tue 10/12/99
15	Professional Well Survey	1 day	Wed 10/13/99	Wed 10/13/99
16	**Allow Wells to Stabilize for 14 Days**	14 days	Wed 10/13/99	Mon 11/01/99
17	**Well Sampling and Gauging and Analytical Preparation**	11 days	Wed 11/10/99	Wed 11/24/99
18	STL Envirotech Well Gauging and Sampling	1 day	Wed 11/10/99	Wed 11/10/99
19	STL Analytical Preparation and Analysis	10 days	Thu 11/11/99	Wed 11/24/99
20	**Investigation Report Preparation**	33 days	Thu 10/14/99	Mon 11/29/99
21	Begin Preparing Investigation Report	5 days	Thu 10/14/99	Wed 10/20/99
22	Receive STL Analytical and Gauging Data	0 days	Thu 11/25/99	Thu 11/25/99
23	Prepare HAZSITE Electronic Deliverable	1 day	Thu 11/25/99	Thu 11/25/99
24	Complete Investigation Report	2 days	Fri 11/26/99	Mon 11/29/99
25	**Investigation Report Submittal**	8 days	Mon 11/29/99	Thu 12/09/99
26	Submit DRAFT Report to LEC for Review	0 days	Mon 11/29/99	Mon 11/29/99
27	LEC DRAFT Report Review and Certification	7 days	Tue 11/30/99	Wed 12/08/99
28	Make review modifications	1 day	Thu 12/09/99	Thu 12/09/99
29	**Submit FINAL Report to NJDEP, EPA and Client**	0 days	Thu 12/09/99	Thu 12/09/99



Project: MW19Hstwelt
Date: Thu 09/29/99

Task | Milestone | Summary | Wharton Review Time | NJDEP Review Time | 14 Day Well Development

L.E. Carpenter
Wharton, New Jersey

Project No. 3868.10
MW19/Hot Spot 1 AOC

Prepared By: Nicholas J. Clevett
Project Manager

Appendix C
Health and Safety Plan

Site Health & Safety Plan

1. General Information

Project:	MW19/HS1 Off-Site Well Installation	**Project Number:**	3868.10
Site Location:	L.E. Carpenter - Wharton, NJ	**Project Manager:**	Nicholas J. Clevett
Prepared By:	Nicholas J. Clevett	**Date:**	8/16/99

Approved By: JC LT (PM) _____ (HSC)

Nicholas J. Clevett — Daniel Leskovec

Date: 8/27/99

TEAM MEMBER	RESPONSIBILITIES
Daniel Lescovec	RMT Site Health and Safety Representative
Nicholas Clevett	Project manager
Al Schmidt	Senior Hydrogeologist

2. Training and Medical Surveillance

Training Level Required:

☒ HAZWOPER 40/8 hour, First Aid, CPR (for all Type 3 sites)

☐ Specialty (*e.g.*, confined space, lockout/tagout, Troxler radiation safety)

List:

Medical Surveillance Level Required:

☒ HAZWOPER physical

☐ Special medical tests

List:

Exceptions/Modifications to training or medical surveillance required: None

3. Personal Protection

Based on evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work areas or tasks:

LOCATION	JOB FUNCTION	LEVEL OF PROTECTION
MW19/Hot Spot 1	Well Installation	☒ D ☐ C ☐ B ☐ A
		☐ D ☐ C ☐ B ☐ A
		☐ D ☐ C ☐ B ☐ A
		☐ D ☐ C ☐ B ☐ A

Specific protective equipment for each level are as follows: (1)

Level A

Respiratory:
- ☐ SCBA
- ☐ Air-Line Supplied Air Respirator
- ☐ Other (describe)

Level B

Respiratory:
- ☐ SCBA
- ☐ Air-Line Supplied Air Respirator
- ☐ Other - Level C-D plus the following exceptions/modifications -

Level C

Respiratory - Air-purifying respirator with cartridge/canister type:
- ☐ HEPA, acid gas, organic vapors (*e.g.*, MSA GMC-H)
- ☐ HEPA only
- ☐ Other - Level D plus the following exceptions/modifications -

Level D

Respiratory - None

Other:
- ☒ Safety glasses
- ☒ Safety shoes
- ☐ Snake chaps/Gaiters
- ☒ Protective clothing and/or gloves required (*i.e.*, modified Level D)
- ☐ Other (describe)
- ☒ Hard hat
- ☒ Ear plugs/muffs

Other skin, eyes, and fall protection required:

Gloves:
- ☐ Butyl rubber
- ☐ PVC-coated
- ☐ Neoprene
- ☐ Nitrile
- ☐ Other (describe)

Protective clothing:
- ☐ Tyvek® or equivalent
- ☐ Tyvek® polyethylene-coated or equivalent
- ☐ Tyvek® Saranex® or equivalent
- ☐ Other (describe)

Radiation Safety:
- ☐ Dosimeter Badge
- ☐ Other (describe)

(1) See RMT Health and Safety Manual for minimum criteria.

Criteria for changing protection levels are as follows:

CHANGE:	APPROVALS REQUIRED (1)		
	HSR	HSC	CHSM
To Level C when Ambient PID monitoring warrants	☒	☐	☐
To Level when	☐	☐	☐
To Level when	☐	☐	☐
To Level when	☐	☐	☐
Evacuate the area when:			

(1) HSR: On-site Health & Safety Representative
HSC Regional Health & Safety Coordinator
CHSM Corporate Health & Safety Manager

Changes to the level of protection shall be made after the required approvals are obtained. All changes shall be recorded in the field log and reported to the HSC as soon as possible.

4. Air Monitoring

The following monitoring instruments shall be used on-site to measure airborne contaminant concentrations in the breathing zone:

	FREQUENCY OF MONITORING
☐ Combustible Gas Indicator	
☐ O_2 Monitor	
☐ Colorimetric Tubes (type)	
☒ PID	Randomly throughout each well installation
☐ FID	
☐ Other (specify)	

5. Site Control (Describe or attach sketch)

Work Zones:

Support Zone: Minimum of 50 feet from Exclusion zone

Contamination Reduction Zone (area used for decontamination): Minimum of 30 feet from exclusion zone

Exclusion Zone (area considered contaminated): Al well installations

Site Entry Procedures:

- ☐ Notify Site Health and Safety Representative
- ☒ Read Health & Safety Plan and sign Acknowledgment Statement
- ☐ Check in with facility security guard
- ☒ Wear proper personal protective equipment
- ☐ Attend facility orientation
- ☒ Conduct "Toolbox" safety meeting
- ☐ Other (specify):

Decontamination Procedures:

Personnel:

Equipment:

Investigation - Derived Material Disposal:

- ☐ ***Leave on site for disposal.***
- ☒ ***Other (describe) Transport on-site for proper management***

Work Limitations (time of day, buddy system, etc.): During Daylight hours

Troxler Radiation Safety:

- ☐ Radiation information not applicable to this project.
- ☐ Notify RSO
- ☐ Wear dosimeter badge when handling gauge
- ☐ Post applicable radiation signs
- ☐ Post emergency numbers
- ☐ Provide at least 2 lock systems for overnight storage
- ☐ Maintain storage at least 15 feet from full-time work stations
- ☐ Block and brace gauge during "all" transportation
- ☐ Limit "public" exposure to gauge while in use
- ☐ Provide sketch of gauge storage to RSO

Contingency Planning

LOCAL EMERGENCY RESOURCES:	
Ambulance:	911
Hospital Emergency Room:	911
Poison Control Center	Alabama (800) 462-0800
Police:	911
Fire Department:	911
USEPA Contact: Steven Cipot (Case Manager Region II), NY, NY)	(212) 637-4411
Other (Troxler, NRC, Agreement State Agency, etc.: Gwen Zervas NJDEP Case Manager	(609) 633-7261

SITE RESOURCES:	
Water Supply:	
Telephone:	
Radio:	
Other:	

EMERGENCY CONTACTS:		
RMT Technical Contact:	Nick Clevett	(312) 575-0200
RMT Project Manager	Nick Clevett	(312) 575-0200
RMT Corporate Health & Safety Manager:	Shannon Posey	(work) (864) 234-9431 (home) (864) 213-5989 EMERGENCY pager only (888) 576-1899 (cell) 1 (847) 867-9634
Radiation Safety Officer (RSO)	John Hanson	(work) (608) 831-4444, Ext 5238 (home) (608) 222-4588 EMERGENCY pager only (608) 278-3783
RMT Health & Safety Coordinator:	Daniel Leskovec	On Site
Contractor Office Contact:	Jeff Lux	(609) 702-1500
Field Contact:	Daniel Lescovec	At site
Client Contact:	Cris Anderson	(216) 589-4020
Facility Manager:	Ken Redcliff	At Site (inactive)

Emergency Routes (give directions or attach map):

Hospital:

Other:

Emergency Procedures:

If an emergency develops at the site, the discoverer will take the following course of action:

- Notify the proper emergency services (fire, police, ambulance, etc.) for assistance.
- Notify other affected personnel at the site.
- Contact RMT and the client representative to inform them of the incident as soon as possible.
- Prepare a summary report of the incident for RMT and the client representative.

Emergency Equipment Required On-site:

☒	First Aid/Bloodborne Pathogens Kit	☐	Fire Extinguisher
☐	Eye Wash	☐	Spill Control Media
☐	Shower	☐	Other: (describe)
☐	Other: (describe)	☐	Other: (describe)

Acknowledgment Statement:

As an employee of RMT, Inc., I have reviewed the Hazard Assessment and Site Health & Safety Plan. I hereby acknowledge that I have received the required level of training and medical surveillance, that I am knowledgeable about the contents of this site-specific Health & Safety Plan, and that I will use personal protective equipment and follow procedures specified in the Health & Safety Plan.

Signatures of RMT Site Personnel (Required):

_____ **Date:** _____

_____ **Date:** _____

_____ **Date:** _____

_____ **Date:** _____

Health & Safety Plan
Initial Report of Incident

1. Type of Incident

☐ Injury/exposure only ☐ Property loss only ☐ Injury and property loss ☐ Reportable incident without injury or property loss

Project Number:	Project Name:	Date of Incident:	Time:	☐ AM ☐ PM

Incident Location:

Name(s) of witnesses to incident, if any:

If incident caused death or serious injury, this report must be called in to the Health & Safety Director and Human Resources Manager *immediately*!!!

2. Injury/Exposure For *any* injury, a "First Report of Injury" form must also be completed. This is available from Human Resources.

Injured employee's full name:	Did injured see a doctor? ☐ Yes ☐ No

Name and address of treating doctor (and hospital, if one was used):

Describe affected body part and the type/degree of damage or exposure:

3. Incident Description and Analysis

Give detailed description of incident (attach additional pages if necessary):

Provide an explanation if the incident was associated with the following:

Job factors:

Personal factors:

Unsafe conditions:

Unsafe practices:

Other:

Have similar incidents occurred before? ☐ Yes ☐ No ☐ Don't know

Why?

4. Property Damage/Loss/Theft

Exactly what was damaged, lost, or stolen?

Was this reported to police? ☐ Yes ☐ No If yes, list departments involved:

Describe amount of damage/lost/theft:

5. Action Items

List actions which could be taken to prevent the occurrence of this incident in the future, or to minimize the effects of future incidents.

6. Signature

Name of person completing this form: Office Location: Date:

Signature of person completing this form:

Send this report to the Health & Safety Coordinator who will provide copies to the Corporate Health & Safety Manager, Project Manager, Department Manager, and/or Human Resources Manager, as required.

This report does not replace a Worker's Compensation (First Report of Injury) or Insurance Claim form which may need to be completed for Human Resources or Loss Prevention.	**Office Use Only** Reportable: ☐ Yes ☐ No

Health & Safety
Initial Report of Incident

Section 1 This report is required to be completed if an incident involves the following:

- A work-related injury, illness, or exposure affecting an RMT employee or other personnel working or visiting the location (Sections 1, 2, 3, and 5).
- Property theft, loss, or damage through an accident, mechanical failure, weather conditions, etc. (Sections 1, 3, 4, and 5).
- A combination of the above (Sections 1,2, 3, 4, and 5).
- Be sure to list any witnesses and their company affiliation, if known. If there is a death or serious injury, the Health and Safety Director and Human Resources Manager must be notified ***immediately.***

Section 2 A "First Report of Injury" form for worker's compensation must *also* be completed for any RMT employee injury. Your Human Resources Representative will provide a form. If the degree of harm is unknown at the time the form is being completed, state "unknown" in the blank.

Section 3 Examples: Job factors may include long work hours, improper equipment, failure of safety devices, etc.

- Unsafe conditions may include weather, poor ventilation or lighting, traffic, slippery ground, etc.
- Unsafe practices may include failure to use safety devices, failure to follow company policies or procedures, etc.
- Personal factors may include lack of sleep, prior illness, improper training, etc.

Section 4 Describe the property which was damaged/lost/stolen. Include police report number, if applicable. An insurance claim form is probably required. The office Administrative Supervisor can supply a form and answer questions.

Section 5 Describe any actions you feel may be effective to prevent the recurrence.

Section 6 Print your name followed by your signature, office location, and the date that you completed the form. The completed form goes to your office's Health and Safety Coordinator who will provide copies to appropriate managers as required.

Health & Safety Plan
Investigation of Near Miss Incident

Each incident should be investigated. The object is to prevent recurrence and it is only by thorough investigation (visit scene of incident and talk to witness) that real causes can be determined and corrected.

Name of Person Involved in Near Miss:		Job Title:		Office Location:	
Age:	☐ Female ☐ Male	Length of time with RMT:	Date of Near Miss:	Time:	☐ AM ☐ PM
Project Number:	Project Name:		Near Miss Location:		
Was employee temporarily working in another department or job at time of Near Miss?	☐ Yes ☐ No	How long has employee worked at job where Near Miss occurred?			

How did Near Miss occur? Tell all objects and substances involved in Near Miss. What machine or tool? What operations?

Please indicate which of the following contributed to the Near Miss:

☐Failure to secure	☐Improper instructions	☐Lack of training or skill	☐Poor housekeeping
☐Horseplay	☐Improper maintenance	☐Operating without authority	☐Poor ventilation
☐Improper dress	☐Improper protective equipment	☐Physical or mental defect	☐Unsafe equipment
☐Improper guarding	☐Inoperative safety device	☐Unsafe arrangement or process	☐Unsafe position

Analysis and Review

Give us your honest comments on the following questions. We are not trying to blame anyone. Your opinion may help us to prevent repetition.

What do you consider the real cause of this Near Miss? (Please do not use the word "careless.")

What steps are being taken to prevent similar incidents or recurrences? (Example: Employees are being instructed in correct lifting and to get assistance with heavy loads.)

Name of person completing this form: Office Location: Date:

Signature of person completing this form:

Send this report to the Health & Safety Coordinator who will provide copies to the Corporate Health & Safety Manager, Project Manager, Department Manager, and/or Human Resources Manager, as required.

Health & Safety
Investigation of Near Miss Incident

This report is required to be completed if the potential for an incident occurs. This involves an incident that could have resulted in an accident, but fortunately/luckily was avoided. The following example will be used throughout this form: A ladder, its base resting on a slick surface, is leaning up against the side of building. A worker climbs the ladder to get onto the roof. As the worker is climbing onto the roof from the ladder, the ladder slips out from under the worker. The worker makes it onto the roof as the ladder falls to the ground. The potential for a damaging accident occurred, but fortunately was avoided. This is a near miss.

The following questions should be answered when completing this form:

- How did the Near Miss occur?
- What do you consider the real cause of this Near Miss?
- What steps are being taken to prevent similar incidents or recurrences?

Analysis and Review

- What do you consider the real cause of the Near Miss?

  Using the near miss example described above, the real cause of the near miss is simply that the base of the ladder was placed on a slick surface that allowed it to slide out as the worker made his/her transition from the top of the ladder onto the roof.

- What steps are being taken to prevent similar incidents or recurrences?

  Continuing with the example given above, the worker should have had an assistant holding the ladder as he/she was climbing to the roof. Also, to keep the base of the ladder from slipping, a rubber mat should have been placed under the ladder.

Appendix D
Hazard Assessment

Hazard Assessment

1. General Information

Project:	MW19/HS1 Off-Site Well Installation	**Project Number:**	3868.10
Site Location:	L.E. Carpenter - Wharton, NJ	**Project Manager:**	Nicholas J. Clevett
Prepared By:	Nicholas J. Clevett	**Date:**	8/16/99

Approved By: NJCLH _____ (PM) _____ (HSC)
Nicholas J. Clevett — Daniel Leskovec

Date: 8/27/99

Proposed Scope of Work and Specific Tasks: Install three (3) off-site monitoring wells downgradient of MW19/HS1 Area of Concern

RMT Role On-site:
- ☐ Resident Project Representative (*e.g.*, "Observe and Document")
- ☐ Construction Manager (*e.g.*, General Contractor)
- ☒ Managing Contractor (*e.g.*, "Agent for Owner")
- ☐ Other (describe)

Proposed Dates of On-site Work: October 21, 1999 to October 23, 1999

Background Information Review: ☐ Preliminary ☐ Moderate ☒ Substantial

Documentation/Summary Overall Hazard: ☐ Serious ☐ Moderate ☒ Low ☐ Unknown

2. Site Characterization

Facility Description: Site is currently regulated under CERCLA as a Superfund Clean-up. Most buildings, to date, have been demolished. The site undergoes monthly enhanced fluid recovery to extract free phase product form the surface of the water table, in addition to quarterly groundwater monitoring. Currently, the site is undergiong further Phase II subsurface investigations to fully delineate impact to groundwater and native soils (MW-19/Hot Spot 1 & Hot Spots B&C). Certain areas have received closure from the NJDEP as areas of concern. One area (Hot Spot 4) is scheduled for excavation, to remove residule impacted soils contaminated with lead above site clean-up levels (600 mg.kg).

Status: ☐ Active ☒ Inactive ☐ Unknown

Operations (current and past): When active (1943 - 1987) the site operated as a manufacturing facility for vinyl wall coverings. Portions of the site are currently subleased as warehouse space.

Unusual Features (utilities, terrain, etc.): The site has undergone extensive demolition, east of the rail spur. As a result, site topography has been altered. The site is bounded by the Rockaway River (South), Washington Forge Pond (West), a drainage ditch (East), and Ross St (North).

History (worker or nonworker injury, complaints from public, previous agency action): Regulated Superfund Site. No knowledge of previous worker injuries is readily available.

3. Site Classification:

Site Type Allocated: ☒ 1 Known or controlled hazards ☐ 2 Unknown and/or uncontrolled hazards ☐ 3 Regulated by 29 CFR 1910.120

Comments: Extensive site investigation has identified all contaminants of concern in both the soild and liquid site matrix.

4. Hazard Evaluation

Potential Chemical Hazards:

SUBSTANCE NAME (1)	PHYSICAL STATE	KNOWN CONCENTRATION LEVELS PRESENT (2)	POTENTIAL ROUTES OF EXPOSURE	ACGIH TLV	OSHA PEL
Toluene	Liquid	123 ppm	Inh, Abs, Ing, Con		100 ppm
Total Xylenes	Liquid	11 ppm	Inh, Abs, Ing, Con		100 ppm
Ethlybenzene	Liquid	1.88 ppm	Inh, Ing, Con		100 ppm
Lead	Solid	5,404 ppm	Inh, Ing, Con		0.1 mg/m^3
bis (2-Exylhexyl) Phthalate (DEHP)	Liquid Solid	14 ppm 14,000 ppm	Inh, Ing, Con		Unknown

(1) Attach MSDS if available.
(2) Attach laboratory results or tables if available.

Ionizing Radiation:

Will the RMT Radiation Safety Officer (RSO) be sent a copy of the H&S Plan? ☐ Yes ☒ No
If No, why will it not be sent to the RSO? No radiation exposure potential

Did the client use radioactive materials on-site, past or present: ☐ Yes (complete table below) ☒ No

Possibility of contamination or exposure due to past or present use of radioactive materials: ☐ Yes (complete table below) ☒ No

SOURCE	QUANTITY	PHYSICAL STATE	POTENTIAL OF EXPOSURE	CONTROL MEASURE

If the answers to the above questions are both No, this table will remain blank.

Will a nuclear moisture/density gauge be used on site? ☐ Yes (see below) ☒ No

If no, will it be a RMT Troxler gauge ☐ Yes (see below) ☒ No (see Subcontractor H&S Qualifications/ Performance Form)

Physical Safety Hazards On-Site and Control Measures

HAZARD	CONTROL MEASURE
Noise	Ear plugs
Heat Stress	Work Rest regieme, hydration
Utilities	Utlity location prior to intrinsic subsurface activity

Appendix E
Emergency Points of Contact

L.E. Carpenter Company
170 North Main Street
Wharton, New Jersey

EMERGENCY NOTIFICATION

IN CASE OF AN EMERGENCY, PLEASE CONTACT THE FOLLOWING PARTIES

- **RMT, Inc.**, 999 Plaza Dr., Suite 370, Schaumburg, IL 60173
  Function: Environmental Project Management and Engineering
  Project Manager: Mr. Nicholas J. Clevett
  (312) 575-0200 Phone
  (312) 575-0300 Fax
  email: Nicholas.Clevett@rmtinc.com

- **L.E. Carpenter Company.**, 200 Public Square, Suite 36-5000, Cleveland, OH 44114-2304
  Function: Client
  Point of Contact: Mr. Cris Anderson
  Position: Director of Environmental Affairs
  (216) 589-4020 Phone
  (216) 589-4034 Fax

- **New Jersey Department of Environmental Protection (NJDEP)**
  Function: Regulator
  Point of Contact: Mrs. Gwen Zervas, Case Manager
  (609) 633-7261 Phone

- **United States Environmental Protection Agency: USEPA Region II**
  Function: Regulator
  Site Contact: Mr. Steven Cipot, Case Manager
  (212) 637-4411 Phone

RMT